

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 06 APR 2005

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Applicant's or agent's file reference 20400509KC	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. <b>PCT/SG2004/000082</b>	International filing date (day/month/year) 5 April 2004	Priority date (day/month/year) 11 April 2003	
International Patent Classification (IPC) or national classification and IPC Int. Cl. <sup>7</sup> G06F 11/08, G06F 12/16			
Applicant STAR SOFTCOMM PTE LTD et al			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.	
2. This REPORT consists of a total of 3 sheets, including this cover sheet.	
3. This report is also accompanied by ANNEXES, comprising:	
a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of 7 sheets, as follows:	
<input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).	
<input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.	
b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).	
4. This report contains indications relating to the following items:	
<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application

Date of submission of the demand 9 November 2004	Date of completion of the report 11 March 2005
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer  <b>John Thomson</b> T�������� No. (02) 6283 2214

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SG2004/000082

**Box No. I**      **Basis of the report**

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1 (b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-29 as originally filed/furnished
- pages\* received by this Authority on with the letter of
- pages\* received by this Authority on with the letter of
- ☒ the claims:
- pages as originally filed/furnished
- pages\* as amended (together with any statement) under Article 19
- pages\* 30-36 received by this Authority with the letter of 4 November 2004
- pages\* received by this Authority on with the letter of
- ☐ the drawings:
- pages 1-23 as originally filed/furnished
- pages\* received by this Authority on with the letter of
- pages\* received by this Authority on with the letter of
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to the sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to the sequence listing (*specify*):

\* If item 4 applies, some or all of those sheets may be marked "superseded."

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SG2004/000082

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims 1-58	YES
	Claims	NO
Inventive step (IS)	Claims 1-58	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-58	YES
	Claims	NO

## 2. Citations and explanations (Rule 70.7)

Claims 1-60 The closest prior art was found to be:

- WO 2003/042840 A
- EP 1195679 A
- EP 1067460 B

No individual citation nor obvious combination of citations discloses all of the essential features of the present invention.

### The Claims

1. A data isolation system for software and data maintenance, back up and recovery for a computer wherein dynamic data files are identified and passed into at least one hidden partition on a hard disk of the computer, the passing being by one or more selected from the group consisting of: copying and redirection;  
wherein the at least one hidden partition and its content is neither manageable nor accessible by the computer's operating system; and the dynamic data files in the hidden partition are not accessible by any software application on the computer.
2. The system as claimed in claim 1, wherein the group further includes filtering and access control.
3. The system as claimed in claim 1 or claim 2, wherein automatic back ups are made to the dynamic data files in the hidden partition whenever the dynamic data files are accessed and modified.
4. The system as claimed in any one of claims 1 to 3, wherein the dynamic data files include the computer's operating environment so that the computer's operating environment can be restored from the dynamic data files in the hidden partition.
5. The system as claimed in any one of claims 1 to 4, wherein the dynamic data files in the hidden partition include data up to the time of a failure of the computer's system.
6. The system as claimed in any one of claims 1 to 5, wherein compression is used for at least one file of the dynamic data files in the hidden partition.
7. The system as claimed in any one of claims 1 to 6, wherein encryption is used for at least one of the dynamic data files in the hidden partition.
8. The system as claimed in any one of claims 1 to 7, wherein prior to copying the dynamic data files into the hidden partition, all software installed on the computer, including a primary operating system for the computer, is segregated into at least one static routine and the dynamic data files, dynamic data files including system configuration files, and user data files.
9. The system as claimed in claim 8, wherein the segregation comprises categorization.

10. The system as claimed in claim 8 or claim 9, wherein all data sent from the primary operating system to the dynamic data files and all data sent from the dynamic data files to the primary operating system is passed to the dynamic data files in the hidden partition.
11. The system as claimed in any one of claims 1 to 10, wherein the dynamic data files in the hidden partition are continuously updated and the original dynamic data files in a main partition of the hard disk are continuously updated.
12. The system as claimed in any one of claims 1 to 11, wherein on system recovery, a last back up system environment in the hidden partition, including the copied dynamic data files, is recovered.
13. The system as claimed in claim 12, wherein the dynamic data files in the hidden partition include all data up to an instant before the recovery process was invoked, and the system environment includes the primary operating system and software.
14. The system as claimed in any one of claims 1 to 13, wherein upon new software being installed in the computer, the installation is delayed until a back up of the existing system environment to the hidden partition is completed and, after completion of the back up, the installation is resumed.
15. The system as claimed in claim 14, wherein if system instability or failure is encountered after the installation or running of the new software, the computer system restores the previous operating environment from the back up.
16. The system as claimed in any one of claims 1 to 15, wherein upon a new device driver being installed in the computer, the installation is delayed until a back up of the existing system environment to the hidden partition is completed and, after completion of the back up, the installation is resumed and, if system instability or failure is encountered after the installation or running of the new device driver, the computer system restores the previous operating environment from the back up.
17. The system as claimed in any one of claims 1 to 16, wherein software application and its dynamic data files are copied to the hidden partition as independent modules.

18. The system as claimed in any one of claims 1 to 17, wherein the dynamic data files in the hidden partition work as active data files for a software application and are continuously updated.
19. The system as claimed in claim 9 or any one of claims 10 to 18 when appended to claim 9, wherein the segregating or categorizing of the data files of is by use of a data isolation technique that consists of one or more selected from the group consisting of:
  - (a) automatic selection of commonly used software application of the operating system;
  - (b) automatic selection of commonly used software application
  - (c) selection of software application by a user of the computer; and
  - (d) selection of files or file folders by the user
20. The system as claimed in claim 19, wherein for (a), (b) and (c), all dynamic data files belonging to the software application will be automatically segregated and stored to the hidden partition.
21. The system as claimed in claim 19, wherein for (d), the selected files or all the dynamic data files belonging to the selected file folders will be automatically segregated and stored to the hidden partition.
22. A system as claimed in claim 11 or any one of claims 12 to 22 when appended to claim 11, wherein an additional I/O driver is placed between a file system I/O interface and a disk driver for access control, intercepting, filtering and re-directing data for the dynamic data files in the hidden partition, the additional I/O driver using an secondary operating system.
23. The system as claimed in claim 23, wherein the access control, intercepting, filtering and re-directing is by the use of regulatory, matching, and fulfillment tables.
24. The system as claimed in claim 23 or claim 24, wherein the additional I/O driver is part of one or more selected from the group consisting of: the disk driver, the file system I/O interface, and the operating system.
25. The system as claimed in any one of claims 23 to 25, wherein the secondary operating system is different to the primary operating system.
26. The system as claimed in any one of claims 23 to 26, wherein back up and recovery use one of the primary operating system and the secondary operating system.

27. The system as claimed in any one of claims 1 to 27, wherein the dynamic data files stored in the hidden partition are protected.
28. The system as claimed in any one of claims 1 to 28, wherein the dynamic data files stored in the hidden partition are used as active working files and are continuously updated.
29. The system as claimed in claim 29, wherein a plurality of back-up copies of each dynamic data file in the hidden partition is made in the hidden partition using a first-in-first-out sequence.
30. The system as claimed in claim 30, wherein upon accessing and modifying an working data file, the plurality of back-ups are updated according to a pre-assigned back-up schedule.
31. A system for managing access to a host computer by a remote computer wherein access by the remote computer is in accordance with a software security access policy in the host computer.  
wherein dynamic data files are identified and passed into a hidden partition on a hard disk of the host computer, the passing being by one or more selected from the group consisting of: copying and redirection.
32. The system as claimed in claim 31, wherein the software security access policy has a file access right and control mechanism.
33. The system as claimed in claim 32, wherein the file access right and control mechanism is used to selectively provide protection to selected software application and their respective dynamic data files.
34. The system as claimed in claim 32 or claim 33, wherein the file access right and control mechanism of the host computer by the remote computer are controlled by the host computer and include:
  - (a) selection of software application/programs;
  - (b) selection of dynamic data files of the software application;
  - (c) selection of configuration files;
  - (d) selection of data file or folder; and
  - (e) selection of the type of the operation to be performed by the remote computer.

35. The system as claimed in claim 34, wherein the selected file, or files belonging to the selected folder, are automatically given the access right while any others will be denied access.
36. The system as claimed in claim 34 or claim 35, wherein the file access right and control mechanism of the host computer are pre-determined by a category of the remote host computer and different remote computers are given different access rights for different usage.
37. The system as claimed in claim 36, wherein all files including program, configuration and user data are automatically given the access right while all others are denied access.
38. The system as claimed in any one of claims 33 to 37, wherein the host computer has an additional I/O driver placed between a file system I/O interface and a disk driver for access control, intercepting, filtering and re-directing data for the dynamic data files, the additional I/O driver using an secondary operating system.
39. The system as claimed in claim 38, wherein the access control, intercepting, filtering and re-directing is by the use of regulatory, matching, and fulfillment tables.
40. The system as claimed in claim 38 or claim 39, wherein the additional I/O driver is part of one or more selected from the group consisting of: the disk driver, the file system I/O interface, and the primary operating system.
41. The system as claimed in any one of claims 38 to 40, wherein the secondary operating system is different to the primary operating system.
42. The system as claimed in any one of claims 38 to 41, wherein back up and recovery use one of the primary operating system and the secondary operating system.
43. The system as claimed in any one of claims 38 to 42, wherein the remote access is through the secondary operating system.
44. The system as claimed in claim 31 or any one of claims 32 to 43 when appended to claim 31, wherein the selected software application and their respective dynamic data files are identified and are located in at least one partition of the primary operating system of the host computer.

45. The system as claimed in any one of claims 29 to 44, wherein the host computer using diagnostic utilities to allow remote technical support by the remote computer.
46. A system for providing an external back up for at least one computer to at least one hidden partition of a centralized back up server, wherein dynamic data files of the at least one computer are identified and passed into the at least one hidden partition on a hard disk of the centralized back up server, the passing being by one or more selected from the group consisting of: coping and redirection.
47. The system as claimed in claim 46, wherein the at least one hidden partition of the centralized back up server is accessed using at least one selected from the group consisting of a: LAN, WAN, VPN, Intranet and Internet.
48. The system as claimed in claim 46 or claim 47, wherein critical applications and their dynamic data files are stored and protected in the at least one hidden partition of the centralized back up server by using encryption and are only able to be accessed by authorized users.
49. The system as claimed in any one of claims 46 to 48, wherein the at least one computer has an additional I/O driver placed between a file system I/O interface and a disk driver for access control, intercepting, filtering and re-directing data for the dynamic data files, the additional I/O driver using a secondary operating system.
50. The system as claimed in claim 49, wherein the access control, intercepting, filtering and re-directing is by the use of regulatory, matching, and fulfillment tables.
51. The system as claimed in claim 49 or claim 50, wherein the additional I/O driver is part of one or more selected from the group consisting of: the disk driver, the file system I/O interface, and the primary operating system.
52. The system as claimed in any one of claims 49 to 51, wherein the secondary operating system is different to a primary operating system of the at least one computer.
53. The system as claimed in claim 52, wherein back up and recovery use one of the primary operating system and the secondary operating system.
54. The system as claimed in any one of claims 49 to 53, wherein communication with the centralized back up server is through the secondary operating system.

55. The system as claimed in any one of claims 1 to 30 further including a system for management of access to a host computer by a remote computer as claimed in any one of claims 31 to 45.
56. The system as claimed in any one of claims 1 to 30 or claim 55, further including a system for providing an external back up as claimed in any one of claims 46 to 54.
57. The system for management of access to a host computer by a remote computer as claimed in any one of claims 31 to 45 further including a system for providing an external back up as claimed in any one of claims 46 to 54.
58. Computer usable medium comprising a computer program code that is configured to cause a process or to execute one or more functions to perform a system as claimed in any one of claims 1 to 57.